



## Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact [support@jstor.org](mailto:support@jstor.org).

# PUBLIC HEALTH REPORTS.

VOL. XXVI.

JUNE 30, 1911.

No. 26.

## AN ATTEMPT TO INFECT THE RHESUS MONKEY WITH BLOOD AND SPINAL FLUID FROM PELLAGRINS.

By JOHN F. ANDERSON, Director Hygienic Laboratory, and JOSEPH GOLDBERGER, Passed Assistant Surgeon.

[From the Hygienic Laboratory, Washington, D. C.]

In the literature of pellagra there is not, so far as we are aware, any record of an attempt to infect by inoculation any of the higher animals, such as monkeys, with the blood or tissues from pellagrins.

Sambon's theory of the transmission of pellagra by the buffalo gnat, or *Simulium reptans*, would seem to require that the infecting agent in pellagra be present in the blood at some stage of the disease. From this it follows that, if monkeys are susceptible, the inoculation of blood from cases of the disease should produce pellagra provided the blood was drawn at a time when the infectious agent was present therein.

During the summer of 1910 we had the opportunity of obtaining some blood from two well-marked cases of pellagra and spinal fluid from one of them. The blood and spinal fluid were used for the inoculation of *Macacus rhesus* monkeys. The details of the experiments are given in the following protocols:

*Case 1.*—Female, G. M. This patient was a well-marked case of pellagra, showing the acute manifestations of the disease at the time the blood was taken. She was probably in her first attack. Her temperature at the time the blood was drawn was normal.

July 16 at 11 a. m. about 10 c. c. of blood was drawn from the arm vein, defibrinated, and used as follows:

Cultures were made in fermentation tubes, which remained sterile. Monkey No. 1; female rhesus. At 12 noon 5 c. c. of the defibrinated blood from G. M. was inoculated intraperitoneally.

Monkey No. 2; female rhesus. To the fibrin and blood remaining in the flask, in which the blood was defibrinated, 5 c. c. of normal salt solution was added. The flask was well shaken and 7 c. c. of the fluid drawn off and inoculated intraperitoneally.

The temperature of both these animals was taken daily until October 21, 1910, when the taking of the temperature was discontinued; but the animals were kept under observation until about March 1, 1911.

On August 11, 1910, there was noted an apparent bronzing of the face and a pinkish tint of the neck and upper chest of monkey No. 1. This bronzing and tinting was noticed to be more distinct on some days and at times of day than at other times. It persisted for a long time without apparent increase. Nothing unusual was noted with monkey No. 2.

*Case 2.*—Female, Mrs. G. This patient was a well-marked case of pellagra, with a marked erythema of hands and elbows, and a roughened scaly forehead. The history was unsatisfactory, but the conclusion was reached that she was probably in her second or third attack. When blood and spinal fluid were taken the patient was in a low muttering delirium and her temperature was between 101.4° and 102.4° F.

On August 24, 1910, at 10.30 a. m., blood was drawn from the arm vein and defibrinated. Cultures were made and found to be sterile.

At 10.45 a. m. about 11 c. c. of spinal fluid was withdrawn. Cultures were made in fermentation tubes and found to be sterile.

Monkey No. 3; female rhesus. At 12.10 p. m. inoculated with 6 c. c. of the defibrinated blood intraperitoneally.

Monkey No. 4; male rhesus. At 12.05 p. m. inoculated with 6 c. c. of the defibrinated blood intraperitoneally.

Monkey No. 5; female rhesus. At 11.55 a. m. inoculated with 10 c. c. of the spinal fluid intraperitoneally.

Daily temperatures were taken of all three of the monkeys until October 21, 1910, when the taking of temperatures was discontinued. The observations, however, were continued until about March 1, 1911.

None of the monkeys presented anything worthy of note, except that it was thought about September 15 that monkey No. 3 showed a slight reddening of the skin in the region of the eyebrows. This, however, lasted only a few days.

During the entire time the monkeys were kept under observation they were in a well-lighted room and exposed to a certain amount of sunlight on bright days. Their food was that given the other monkeys in the laboratory, it not being considered advisable to make any change in their diet, as the question it was wished to determine by the inoculation of the fluids from the cases of pellagra was as to whether the blood or the spinal fluid from such cases, when inoculated into monkeys, was able to produce pellagra in these animals.

*Summary.*—The blood from two cases of pellagra and the spinal fluid from one of them were not infective for the rhesus monkeys.

*Interpretation.*—The foregoing result permits of several interpretations. Thus it may be (1) that the rhesus monkey is not susceptible to pellagra; or (2) if susceptible (*a*), that our technique in some respect was faulty or (*b*) that while the technique was adequate the infective agent was not present in the blood nor in the spinal fluid at that stage of the disease.

Extending this last interpretation, one may suspect that the infective agent in pellagra never resides in the blood or spinal fluid.

A final conclusion, however, is not justified.

We desire to extend our thanks to Drs. Edwin B. Behrend and J. D. Thomas for their courtesy in permitting us to study these two cases of pellagra.